

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph that begins on page 1, line 6 and ends on page 1, line 24 with the following amended paragraph:

The present application is related to U.S. patent application Ser. No. 10/348,077, entitled "Method and System for Obtaining Logical Performance Data for a Circuit in a Data Network," filed on January 21, 2003, and U.S. patent application Ser. No. 10/348,592, entitled "Method and System for Provisioning and Maintaining a Circuit in a Data Network," filed on January 21, 2003. This application is also related to U.S. patent application Ser. No. 10/745,117 entitled "Method And System For Providing A Failover Circuit For Rerouting Logical Circuit Data In A Data Network," ~~bearing attorney docket number 60027.0337US01/BS030233~~, filed on December 23, 2003, U.S. patent application Ser. No. 10/745,047, entitled "Method And System For Automatically Renaming Logical Circuit Identifiers For Rerouted Logical Circuits In A Data Network," ~~bearing attorney docket number 60027.0339US01/030253~~ filed on December 23, 2003, U.S. patent application Ser. No. 10/745,170, entitled "Method And System For Automatically Identifying A Logical Circuit Failure In A Data Network," ~~bearing attorney docket number 60027.0340US01/030259~~, filed on December 23, 2003, and U.S. patent application Ser. No. 10/744,921, entitled "Method And System For Automatically Rerouting Logical Circuit Data In A Data Network," ~~bearing attorney docket number 60027.0341US01/030273~~, filed on December 23, 2003, All of the above-referenced applications are assigned to the same assignee as the present application and are expressly incorporated herein by reference.

Please replace the paragraph that begins on page 2, line 12 and ends on page 2, line 16 with the following amended paragraph:

In large-scale networks, the host and remote end devices of a network circuit may be connected across different local access and transport areas ("LATAs") which may [[be]] in turn be connected to one or more Inter-Exchange Carriers ("IEC") for transporting data between the LATAs. These connections are made through physical trunk circuits utilizing fixed logical connections known as Network-to-Network Interfaces ("NNIs").

Please replace the paragraph that begins on page 2, line 17 and ends on page 3, line 4 with the following amended paragraph:

Periodically, failures may occur to the trunk circuits or the NNIs of network circuits in large-scale networks causing lost data. Currently, such network circuit failures are handled by dispatching technicians on each end of the network circuit (i.e., in each LATA) in response to a reported failure. The technicians manually access a logical element module to troubleshoot the logical circuit portion of the network circuit. The logical element module communicates with the switches in the data network and provides the technician with the status of the logical connections which make up the logical circuit. Once the technician determines the status of a logical connection at one end of a logical circuit (e.g., the host end), the technician then must access a network database to determine the location of the other end of the logical circuit so that its status may also be ascertained. If the technician determines the logical circuit is operating properly, the technician then accesses a physical element module to troubleshoot the physical circuit portion of the network circuit to determine the cause of the failure and then repair it. If, while troubleshooting a network circuit, the technician determines that a network circuit will be

"down" (i.e., losing data) for an extended time period ~~while troubleshooting a network circuit,~~ the technician may manually reroute the data from a failed network circuit to an available unused or "backup" network circuit while the failed network circuit is being repaired.

Please replace the paragraph that begins on page 3, line 5 and ends on page 3, line 15 with the following amended paragraph:

Current methods of repairing network circuits, however, do not include tracking of rerouted network circuits. For example, while repairing a network circuit, data may be rerouted to a backup circuit having an identification which is different than the original network circuit which failed. In order to access this information, a technician would be required to manually access the network database to lookup the identification of the failed network circuit and cross-reference this information with data obtained from the logical element module to identify the backup circuit used for rerouting network circuit data. Moreover, there is currently no way to monitor or track the performance of backup network circuits over time such that underperforming or over-utilized backup circuits may be identified. ~~It is with respect to these considerations and others that the present invention has been made.~~

Please replace the paragraph that begins on page 4, line 16 and ends on page 4, line 29 with the following amended paragraph:

Another method for fail-safe renaming of logical circuit identifiers for rerouted logical circuits in a data network includes providing a network management module for accessing a network device provisioned for routing data over a first logical circuit in the data network. The network management module is further utilized for deleting the first logical circuit in the

network device upon detecting a failure in the first logical circuit and provisioning a second logical circuit in the network device for rerouting the data from the first logical circuit. In provisioning the second logical circuit, the network management module is utilized to assign a second logical circuit identifier to identify the second logical circuit. The network management module is further utilized for renaming a first logical circuit identifier to the second logical circuit identifier and renaming a logical circuit label for the first logical circuit in a logical element module in communication with the network management module. The renamed logical circuit label includes the first logical circuit identifier and is [[to]] utilized to indicate that the logical circuit data from the first logical circuit has been rerouted.

Please replace the paragraph that begins on page 9, line 23 and ends on page 10, line 6 with the following amended paragraph:

The data network 2 may also include a failover network 17 for rerouting logical circuit data, according to an embodiment of the invention. The failover network 17 may include a network failover circuit including physical connections 134 and 144 and logical connections 122 and 132 for rerouting logical circuit data in the event of a failure in the network circuit between the host device 112 and the remote device 114. The failover network 17 will be described in greater detail in the description of FIG. 4 below. The data network 2 may also include a network management system 175 in communication with the LATA 5, the LATA 15, and the failover network 17. The network management system 175 may be utilized to obtain status information for the logical and physical circuit between the host device 112 and the remote device 114. The network management system 175 may also be utilized for [[to]] rerouting logical data in the data

network 2 between the host device 112 and the remote device 114. The network management system 175 will be discussed in greater detail in the description of FIG. 3 below.

Please replace the paragraph that begins on page 12, line 3 and ends on page 12, line 15 with the following amended paragraph:

The network management system 175 also includes the logical element module 153 which is in communication with the switches in the data network 2 through management trunks 183. The logical element module 153 runs a network management application program to monitor the operation of logical circuits which includes receiving trap data generated by the switches which [[with]] indicate the status of logical connections. The trap data may be stored in the logical element module 153 for later analysis and review. The logical element module 153 is also in communication with the network database 170 via management trunks 172 for accessing information stored in the network database 170 regarding logical circuits, such as the logical circuit identifier data. In an alternative embodiment, the logical element module 153 may also be utilized to store the logical circuit identifier data. The logical circuit identifier data may include, for example, the DLCI or VPI/VCI header information for each data frame or cell in the logical circuit including the circuit's destination and service parameters.

Please replace the paragraph that begins on page 12, line 16 and ends on page 12, line 30 with the following amended paragraph:

It will be appreciated that in one embodiment, each logical circuit identifier may be included in a logical circuit label stored in the logical element module 153. The logical circuit label may include a customer ID, the location of the host device for the circuit, the location of the

remote or end device for the circuit, and one or more logical circuit IDs for the circuit between the host device and the remote device. For example, a logical circuit label between the host device 112 and the remote device 114 in the data network 2 of FIG 1. may be as follows: "Trustmark1_miamibirmingham_101_880." The logical circuit label in the aforementioned example indicates that the customer ID is "Trustmark1" for a logical circuit between Miami and Birmingham. The label also indicates that the logical circuit ID at the host and remote ends of the circuit is "101" and that the logical circuit ID for the portion of the circuit which passes through the IEC 10 is "880." The logical element module 153 may consist of terminals (not shown) that display a map-based graphical user interface ("GUI") of the logical connections in the data network. An illustrative logical element module is the NAVISCORE™ system marketed by LUCENT TECHNOLOGIES, Inc. of Murray Hill, NJ.

Please replace the paragraph that begins on page 15, line 1 and ends on page 15, line 9 with the following amended paragraph:

FIG. 5 is a flowchart describing logical operations 500 for fail-safe renaming of logical circuit identifiers for rerouted logical circuits in a data network, according to an embodiment of the invention. It will be appreciated that the logical operations 500 may be initiated by a customer report of a logical circuit failure [[is]] received in the data network 2. For example, a customer at the remote device 114 may determine that the remote device 114 is not receiving any data (e.g., frames or cells) sent from the host device 112 (e.g., by reviewing LMI status information in the host device). After receiving the customer report, the network service provider providing the network circuit may open a trouble ticket in the service order system 160 to troubleshoot the logical circuit.

Please replace the paragraph that begins on page 15, line 10 and ends on page 15, line 28 with the following amended paragraph:

The logical operations 500 begin at operation 505 where the network management module 176 determines a failure in a logical circuit in the data network 2. It should be understood that a logical circuit failure occurs when one or more logical connections in a logical circuit have failed. As discussed above in the description of FIG. 2, trap data indicating a logical connection failure may include status information indicating that a switch in the data network is discarding frames or cells. Such an event may occur, for example, when the maximum CIR or Bc (as specified in the DLCI of a frame in a frame relay network, for example) is exceeded. The trap data may be received from the logical element module 153 and may be generated by one or more network devices or switches in the data network which indicate the status of one or more logical connections making up the logical circuit. It will be appreciated that in one embodiment of the present invention, the network management module 176 may be configured to automatically monitor the logical circuits for trap data to identify the logical circuit failure. An illustrative method detailing the automatic monitoring of logical circuits to identify a logical circuit failure in a data network is presented in co-pending U.S. patent application Ser. No. 10/745,170, entitled "Method And System For Automatically Identifying A Logical Circuit Failure In A Data Network," bearing attorney docket number 60027.0340US01/030259, filed on December 23, 2003, and assigned to the same assignee as this application, which is expressly incorporated herein by reference.